

Parts of an Electric Circuit

An **electric current** is the flow of electric charges from one place to another. When this current follows a controlled path, it is called an **electric circuit**.

We use electric circuits to convert electrical energy into other useable forms of energy. Every electric circuit has the same four basic parts.

CIRCUIT PART	FUNCTION	EXAMPLE
Energy Source	<ul style="list-style-type: none">provides the electric charges needed to create a current	<ul style="list-style-type: none">photoelectric cellscells and batteriesportable generatorswall outlets
Electrical Load	<ul style="list-style-type: none">converts electrical energy into the form of energy needed	<ul style="list-style-type: none">toasterlight bulb
Control Device	<ul style="list-style-type: none">turns current on and off	<ul style="list-style-type: none">switchesclock timerthermostat
Connector	<ul style="list-style-type: none">provides a controlled path for electric current to flow to each part of the circuit	<ul style="list-style-type: none">transmission lineswires on microchipscords on appliances

An **open circuit** describes a circuit through which no current is flowing. This is because the switch is in the "open" position, and is not connected to the other part of the switch, preventing a flow of electric charges.

A **closed circuit** allows a current to flow because the switch is "closed". The current flows in a continuous loop through the wires, load, switch, and energy source.